Ulcerative Colitis

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Definition

Inflammatory bowel diseases (IBDs), including ulcerative colitis (UC) and Crohn's disease, are chronic inflammatory diseases of the gastrointestinal tract. They are diagnosed by a set of clinical, endoscopic, and histologic characteristics.

Epidemiology-IBD

- The incidence is about 5 per 100,000.
- The prevalence is about 50 per 100,000.
- The peak age at onset
  - Between 15 and 25 years,
  - Second, lesser peak between 55 and 65 years.
- The incidence in children is low.
- The incidence is equal in men and women.
- Higher incidence in first-degree relatives
- The epidemiology varies with geographic location.

Pathogenesis

- Activated T cells are involved in the pathogenesis.
- Anticolon antibodies have been identified in the sera of ulcerative colitis patients.
- Failure to suppress the normal, low-grade chronic inflammation of the intestinal lamina propria.
- Colitis could be the result of an abnormal immune response to commensal bacteria.

Pathology-UC

- Inflammation begins in the rectum, extends proximally a certain distance, and then abruptly stops.
- Pathological changes vary according to the activity and severity and include one or more of the following;
  - Superficial erosions, Large superficial ulcers.
  - Mucosal edema and vascular congestion.
  - Inflammatory polyps or pseudopolyps.
- Active UC is marked by
  - Crypt abscesses.
  - Mucosal edema and vascular congestion.

➢Neutrophils in the mucosa and submucosa.
■There are also signs of chronicity, with lymphoid aggregates, plasma cells, mast cells, and eosinophils.
■Pathologic changes in UC are;
➢ Usually limited to the mucosa and submucosa.
➢ May not correlate with clinical and endoscopic assessment.

Clinical Manifestations

■Diarrhea
➢The dominant symptom
➢Usually associated with blood in the stool
➢Bowel movements are frequent but small in volume.
➢Urgency and fecal incontinence may occur
■Fever and abdominal pain may occur.
■Systemic features "fever, malaise, and weight loss" are more common if most of the colon is involved.

■In mild to moderate severity
➢There may be tenderness over the affected area.
➢Rectal examination may reveal tenderness
➢Rectal examination may reveal blood on the glove.
■In severe disease, the patient is more likely to have
➢Fever, tachycardia
➢Anemia , Elevated ESR
➢Elevated leukocyte count
➢Electrolyte disorders.

■The initial attack of UC
➢Usually begins indolently, but it may be fulminant.
➢May be seen with any extent of anatomic involvement from proctitis to pancolitis
■UC usually follows a chronic intermittent course.
■A significant % of patients have a chronic continuous course.

Extraintestinal Manifestations of IBD

The extraintestinal manifestations can be divided into two major groups:
➢(1) those in which the clinical activity follows the activity of the bowel disease and
➢(2) those in which the clinical activity is unrelated to the activity of the bowel disease.
■**Arthritis**
Most common extraintestinal manifestation of IBD
❑Colitic arthritis
➢Migratory arthritis
➢Parallels the course of the bowel disease
➢Affects the knees, hips, ankles, wrists, and elbows.
❑Ankylosing spondylitis
➢Characterized by morning stiffness and low back pain

➢30-fold increase in the incidence in patients with UC.
➢Treatment of the IBD are not helpful in managing ankylosing spondylitis.

■Hepatic complications
➢Fatty liver, chronic active hepatitis, and cirrhosis.
➢Pericholangitis is the most common hepatic complication.
❑Biliary tract complications
➢Sclerosing cholangitis (UC).
➢Gallstones (Crohn's disease).
❑Sclerosing cholangitis
➢Occurs in 1 to 4% of patients with UC
➢lower frequency in Crohn's disease.
➢Treatment of IBD doesn't ameliorate the course.

■Dermal manifestations
❑Pyoderma gangrenosum
➢Usually develop during a bout of acute colitis
➢Resolve with control of the colitis.
➢In rare cases, colectomy is required.
❑The activity of erythema nodosum,
➢Seen in association with Crohn's disease in children,
➢Follows the activity of the bowel disease.
■Ocular manifestations
➢Ocular complications of IBD are uveitis and episcleritis.

Diagnosis

■Radiography
■Findings are not correlate well with disease activity.
■Barium enema may be normal in early UC.
■The involved segment may reveal
➢limited distensibility.
➢Narrow, short, and tubular lumen.
➢The haustral markings disappear.
➢Straightening of the colon.
➢Fine granular appearance of the mucosa.
Ulcerative colitis. An air contrast barium enema demonstrates luminal narrowing and loss of haustral markings in the sigmoid and descending colon in a patient with ulcerative colitis.

Endoscopy
Endoscopic features include one or more of the foolowing;
➢Hyperemia, edema, and loss of vascular pattern.
➢Presence of yellowish exudates on the mucosa.
➢Shallow irregular ulcers.
➢Relatively deep ulcers surrounded by erosions and erythematous mucosa.
➢Inflammatory polyposis in extensive UC.

➢No “Skip lesions” and No cobblestone appearance.
➢Mucosal changes are diffuse, circumferential and continuous.

Differential diagnosis

■Crohn’s disease
■Infections
➢Infections with Shigella, Amoeba, Giardia, and *Escherichia* coli, can give bloody diarrhea and endoscopic picture identical to UC
➢Diarrhea has limited to a period of days to a few weeks.
➢Stool cultures for pathogens and Serologic tests.
❑Pseudomembranous colitis
➢The presence of small membranous plaques adherent to the mucosa on sigmoidoscopy is pathognomonic.
➢ Check the stool for Clostridium difficile toxin.

Medical Therapy

■**Proctitis**
For active ulcerative proctitis;
➢Nightly administration of 5-ASA retention enemas or suppositories, often supplemented with an oral aminosalicylate.
➢Corticosteroid retention enemas can also be used.
➢ Another approach to proctitis or distal colitis is an oral aminosalicylate, although a response may not be evident for 3 to 4 weeks.

■**Extensive colitis**
■In patients with colitis of mild to moderate activity and extension proximal to the sigmoid colon, the initial drug of choice is an oral aminosalicylate; efficacy increases with increasing doses.
■Even with more extensive disease, supplementation of oral aminosalicylates with aminosalicylate enemas or suppositories may help reduce the symptoms.
■In patients with more active disease (more than five or six bowel movements per day), patients in whom a more rapid response is desired, or those who have not responded to 3 to 4 weeks of aminosalicylates, the treatment of choice is oral prednisone.
■ After the symptoms are controlled, prednisone can be gradually tapered until fully withdrawn from it.
■For steroid refractory or steroid dependent patients
➢Indefinite corticosteroid therapy,
➢Immunomodulator (azathioprine or 6-MP),
➢Colectomy.
■High-dose of steroid for too long a time is a serious error.
■If the patient is taking >15 mg/day of prednisone for more than 6 months, a trial of an immunomodulator or colectomy should be given serious consideration.

■**Severe active ulcerative colitis**
➢Hospitalization and bed rest and nothing by mouth.
➢Evaluation for toxic megacolon.

➢Intravenous corticosteroids.
➢Intravenous fluids for rehydration.
➢Total parenteral nutrition may be necessary.
➢Parenteral antibiotics if there are signs of infection.
➢Anticholinergics are contraindicated.
➢Antidiarrheal agents are contraindicated.
➢Patients with no improvement in 7-10 days should be considered for either colectomy or trial of intravenous cyclosporine.

■Maintenance Therapy
■Maintenance therapy with aminosalicylates has been recommended for those brought into remission with corticosteroids
■Maintenance with 6-MP or azathioprine is recommended for patients brought into remission with these drugs or who were corticosteroid dependent and then converted to these drugs.
■No role for corticosteroids as maintenance therapy.

Surgical Therapy

■20-25% of patients with extensive UC eventually undergo colectomy, usually because of inadequate response to medical therapy.
■Colectomy is a curative procedure.
■Emergency colectomy may be required in
➢Patients with toxic megacolon or
➢ Severe fulminant attack without toxic megacolon.
■The decision for or against colectomy is influenced by the patient's age, social circumstances, duration of disease and the risk for the development of malignancy.

Complications

■Toxic megacolon
❑The most severe complication of ulcerative colitis toxic megacolon, or dilation of the colon to a diameter greater than 6 cm associated with worsening of the patient's clinical condition and the development of fever, tachycardia, and leukocytosis.
❑Physical examination may reveal postural hypotension, tenderness over the distribution of the colon, and absent or hypoactive bowel sounds.
❑Antispasmodics and antidiarrheal agents are likely to initiate or exacerbate toxic megacolon.
❑If there are no signs of clinical improvement during the first 24 to 48 hours of medical therapy,the risk for perforation increases markedly, and surgical intervention is indicated.

Follow-Up
❑Patients with extensive UC have a markedly increased risk for colon cancer beginning 8 to 10 years after diagnosis and increasing with time.
❑Surveillance colonoscopy with random biopsies in patients with long-standing UC beginning 8 to 10 years after the onset of disease and repeated every 1 to 2 years.

Thank you